

lumen 80 may be connected to an intra-aortic balloon pump via extracorporeal tubing 85. Extracorporeal tubing 85 is preferably made from polyvinylchloride (PVC) but may be made from polyurethane or any clear and flexible polymer, as well. The details of the co-lumen catheter construction are more fully laid out in U.S. Patent No. 6,024,693, herein incorporated by reference in its entirety.

In the Claims:

Please amend claims 1, 4, 17 and 18 and add new claim 23:

1. (amended) A percutaneously insertable intra-aortic balloon catheter comprising a catheter tube, a balloon membrane, a tip, and a gas lumen insert, said catheter tube comprising a gas lumen disposed within an outer surface of the catheter tube and extending the length of catheter tube, a proximal end of the balloon membrane is connected to a distal end of the catheter tube, a distal end of the balloon membrane is connected to the tip, the gas lumen insert comprising a removable elongate body at least partially disposed within the gas lumen.

4. (amended) A percutaneously insertable intra-aortic balloon catheter comprising a catheter tube, a balloon membrane, an inner tube, a tip, and a gas lumen insert, said catheter tube comprising an inner tube portion and an outer tube portion defining a gas lumen, said inner tube being at least partially disposed within the [inner] outer tube portion and extending beyond a distal end of the outer tube portion and being connected to a distal end of the balloon membrane and to the tip, the gas lumen insert comprising a removable elongate body at least partially disposed within the gas lumen.

17. (amended) The intra-aortic balloon catheter as claimed in claims 1 or 2 or 3 or 4 or 5 wherein the gas lumen insert occupies more than one third of a [the] cross sectional area of the gas lumen.

18. (amended) The intra-aortic balloon catheter as claimed in claims 1 or 2 or 3 or 4 or 5 wherein the gas lumen insert occupies at least one half of a [the] cross sectional area of the gas lumen.

23. (new) The intra-aortic balloon catheter as claimed in claims 1 or 2 or 3 or 4 or 5 wherein the gas lumen insert occupies substantially the entire gas lumen.

Below please find specification paragraph [00036] with amendments incorporated:

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2 [00036] Inner lumen 81 terminates in port 29 of y-fitting connector 46. Measurement of aortic pressure and blood sampling may be done through port 29. A proximal end of gas lumen 80 exits through a port 28 on y-fitting connector 46. A proximal end of gas lumen 80 may be connected to an intra-aortic balloon pump via extracorporeal tubing 85. Extracorporeal tubing 85 is preferably made from polyvinylchloride (PVC) but may be made from polyurethane or any clear and flexible polymer, as well. The details of the co-lumen catheter construction are more fully laid out in U.S. Patent No. 6,024,693, herein incorporated by reference in its entirety.

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Below please find new claim 23 and claims 1, 4, 17 and 18 with amendments incorporated:

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1. (amended) A percutaneously insertable intra-aortic balloon catheter comprising a catheter tube, a balloon membrane, a tip, and a gas lumen insert, said catheter tube comprising a gas lumen disposed within an outer surface of the catheter tube and extending the length of catheter tube, a proximal end of the balloon membrane is connected to a distal end of the catheter tube, a distal end of the balloon membrane is connected to the tip, the gas lumen insert comprising a removable elongate body at least partially disposed within the gas lumen.

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4. (amended) A percutaneously insertable intra-aortic balloon catheter comprising a catheter tube, a balloon membrane, an inner tube, a tip, and a gas lumen insert, said catheter tube comprising an inner tube portion and an outer tube portion defining a gas lumen, said inner tube being at least partially disposed within the outer tube portion and extending beyond a distal end of the outer tube portion and being connected to a distal end of the balloon membrane and to the tip, the gas lumen insert comprising a removable elongate body at least partially disposed within the gas lumen.

a<sup>4</sup>  
17. (amended) The intra-aortic balloon catheter as claimed in claims 1 or 2 or 3 or 4 or 5 wherein the gas lumen insert occupies more than one third of a cross sectional area of the gas lumen.

18. (amended) The intra-aortic balloon catheter as claimed in claims 1 or 2 or 3 or 4 or 5 wherein the gas lumen insert occupies at least one half of a cross sectional area of the gas lumen.

a<sup>5</sup>  
23. (new) The intra-aortic balloon catheter as claimed in claims 1 or 2 or 3 or 4 or 5 wherein the gas lumen insert occupies substantially the entire gas lumen.